

HIGH DENSITY MIMCAP WITH A UNIT REPEATABLE STRUCTURE

Abstract

A structure, apparatus and method for utilizing vertically interdigitated electrodes serves to increase the capacitor area surface while maintaining a minimal horizontal foot print. Since capacitance is proportional to the surface area the structure enables continual use of current dielectric materials such as Si_3N_4 at current thicknesses. In a second embodiment of the interdigitated MIMCAP structure the electrodes are formed in a spiral fashion which serves to increase the physical strength of the MIMCAP. Also included is a spiral shaped capacitor electrode which lends itself to modular design by offering a wide range of discrete capacitive values easily specified by the circuit designer.